From: ANDERSON Jim M
To: Eric Blischke/R10/USEPA/US@EPA
Subject: FW: Channel Migration Zone training - Paradise Valley, Montana
Date: 09/12/2008 03:48 PM

Eric,
Did Bill Locke go to Montana State Univ (lucky dog)? See list of instructors below.

Jim A

-----Original Message-----
From: ORR Jim
Sent: Friday, September 12, 2008 9:46 AM
To: [All DEQ] Cleanup Staff
Subject: FW: Channel Migration Zone training - Paradise Valley, Montana

Fyi- Class

Thanks, Jim Orr

NW Region Cleanup Program
2020 SW 4th Ave. Suite 400
Portland, Oregon 97201
503-229-5039
orr.jim@deq.state.or.us

-----Original Message-----
From: Renata Sobol [mailto:rsobol@nwetc.org]
Sent: Friday, September 12, 2008 9:20 AM
To: Cleanup Info
Subject: Channel Migration Zone training - Paradise Valley, Montana

The Northwest Environmental Training Center presents:

Channel Migration Zone Delineation Workshop - Interpreting Fluvial Landscapes

Understanding Integration between Fluvial Geomorphology, Hydrology, Geology, Sedimentology and Hydraulics

October 21-23, 2008, 3-Day Short Course
Chico Hot Springs Resort and Day Spa | Paradise Valley, North of Yellowstone National Park, Montana

***Tim Abbe**, Ph.D., L.H.G., L.E.G. Vice-President, ENTRIX Inc.*
***Patricia L. Olson**, Ph.D., LHG, Senior Hydrogeologist, Washington State Department of Ecology*
***Chuck Dalby**, Hydrologist, DNRC-WRD*
***Bill Locke**, PhD, Department of Earth Sciences, Montana State University*
***Karen Williams**, P.E., ENTRIX Inc.*

This workshop will provide participants with a basic understanding of channel migration zones (CMZs), including the principal factors influencing channel migration, appropriate methods for mapping historic migration zones, erosion and avulsion hazard areas, and identifying future migration areas. The course will cover basic concepts in interpreting fluvial landscapes, including fluvial geomorphology, hydrology, geology, sedimentology and hydraulics.

Fluvial channel networks define pathways through which water and sediment are conveyed across the landscape. The spatial and temporal characteristics of water and sediment conveyance define two distinct disturbance regimes that directly impact ecological and human communities. The first of these disturbance regimes is defined by the spatial extent and frequency of flooding. The second disturbance regime involves spatial changes in the land by erosion or deposition through time. While these two regimes are closely linked, it is important to distinguish them since they represent two distinctly different consequences: 1) flood inundation and 2) land erosion. Both disturbance regimes have beneficial environmental effects but can pose significant hazards to development within the floodplain or channel migration zone. Local, state and federal regulatory guidelines increasingly recognize the importance of CMZs both in regards to erosion hazard assessment and protection of aquatic and riparian habitat.

Course Description | **Register Online** | **Accommodations** | **Directions**

Course Topics:	

CMZ Definition and Functions Water Quality - Runoff Filtering - Hyporheic Zone - Sediment Aquatic Habitat Riparian Habitat Geologic Hazard Fluvial Geomorphology Valleys and Hillslopes Channels, Floodplains, and Terraces Channel Types, Segments, Reaches, Sub-reaches, and Networks Channel Movement: Migration Versus Avulsion (Classification of lateral activity) Geologic Controls Hydrology and Hydraulics Topographic Analysis 7.51 Minute Quadrangles 10m/30m DEMs 1-2m LiDAR 2-51 Contour Photogrammetry Historic Channel Analysis Historic Analysis Maps Airphoto	Field Mapping Landform Mapping and Trend Analysis Geomorphic Metrics - radius of curvature - channel slope v. valley slope Floodplain and Terrace Mapping -GPS -Total Station and Prism -Autolevel, Tripod and Survey Rod -Handlevel and Tape Interpretation of Alluvial Sediments and Debris -Bank Stratigraphy -Forests Stems Roots -Snags -Logjams Infrastructure Special Circumstances Hands-on CMZ Delineation Several field trips will be taken during this course, Yellowstone River

Intended audience: The course is intended for professional geo-scientists with a background in fluvial processes. The course is also appropriate for personnel involved with reviewing CMZ delineations and desiring a better understanding of fluvial systems.

Prerequisites: This course is intended for professional geo-scientists with a background in fluvial processes. Introductory college level courses in fluvial geomorphology, hydrology, geology and remote sensing or cartography (including GIS) are strongly recommended. The course is also appropriate for personnel who will be involved with reviewing CMZ delineations and desiring a better understanding of fluvial systems.

Course materials: Each attendee will receive a copy of the workshop proceedings and case study data for the hands-on exercises.

Credit: 2.0 Continuing Education Units (CEUs)

Lead instructor bio: Dr. Abbe is an internationally recognized geomorphologist and licensed engineering and hydrogeologist with 22 years of applied science and research experience in geology, geomorphology, environmental restoration, risk assessment, self-mitigating flood and erosion protection, sustainable land management, and water resources. Dr. Abbe has developed and implemented cutting edge solutions for a wide range of clients and his work is being used all over the world to better understand and restore rivers.

Dr. Abbe has directed major water resource and geomorphic investigations throughout the Western United States, including: the effects of flow diversions and landuse on aquatic habitat; channel migration and erosion, flooding; water, sediment and wood budgets, geomorphic hazards; slope stability; ship traffic; scour assessment; mining; and water quality. He has directed the development and implementation of 50 successful projects to restore habitat and protect infrastructure in river and coastal environments around the world. His work in restoration and protecting transportation infrastructure has been featured in major newspapers, magazines, and National Public Radio.

- **Registration: $1,395**
  This course fee includes:
- Accommodations at one of two main lodges (double occupancy only) at Chico's Hot Springs Resort and Day Spa
- Breakfast, lunch and dinner on October 21st through 23rd
- **October 20th:** For those of you that want to get a ride from **Bozeman**: We'll meet at the **Bozeman airport (Galletin Field Airport)**, load vans, which we will take to Chico's. If you would like to get a ride from the airport, please include $20 to your registration total.
- We'll check-in on the evening of the 20th and will meet for dinner for some introductions and networking
- **October 21st:** Breakfast at 8 A.M. Class starts at 9:00 A.M.
- **October 22nd:** Breakfast at 8 A.M. Class starts at 9:00 A.M.
- **October 23rd:** Breakfast at 8 A.M. Class starts at 9:00 A.M.
- **October 24th:** Breakfast at 9 A.M. Check-out and head back to **Bozeman** at 11:00 A.M.
  (This is a tentative schedule, more details coming soon)
- Chico's Hot Springs Resort and Day Spa is **located in Paradise Valley, just north of Yellowstone National Forest and along the foothills of the Absaroka Mountain Range**, capturing all the beauty Montana has to offer.

This course is limited to 35 people, early registration is strongly recommended! You may register online or by calling the Northwest Environmental Training Center at 206-762-1976. If you require more time for payment please don't hesitate to call us.
Contact Renata Sobol with any additional questions | **Register Online**

Registration and Cancellation Policy: *All cancellations occurring between August 20, 2008 and October 20, 2008 are non-refundable. Registrations may occur up to 7 days prior to the course provided that space is available. Maximum number of attendees is limited to 35. Course registration fees and cancellation policy are subject to change without notice.*

Disability Accommodations: *To request disability accommodations, please contact us at info@nwetc.org or (206) 762-1976 at least 30 days prior to the event.*

Complete Training Catalog
Training by State: AK | AZ | CA | CO | HI | ID | MN | MT | NM | NV | NY | OR | TX | WA

Best,
Renata Sobol | nwetc.org

Northwest Environmental Training Center
650 South Orcas Street, Suite 220 :: Seattle, WA 98108
206. 762. 1976 ph :: 206. 762. 1979 fx
rsobol@nwetc.org :: www.nwetc.org

THIS TRAINING IS BROUGHT TO YOU BY THE NORTHWEST ENVIRONMENTAL TRAINING CENTER
~Improving environmental quality and public health by providing professional development opportunities and technology transfer to environmental professionals